March 5, 1968 J. S. BOZEK 3,371,818

PLASTIC TAB AND INNER TAPE FOR EASY OPENING CAN END

Filed May 27, 1966

FIG. 1

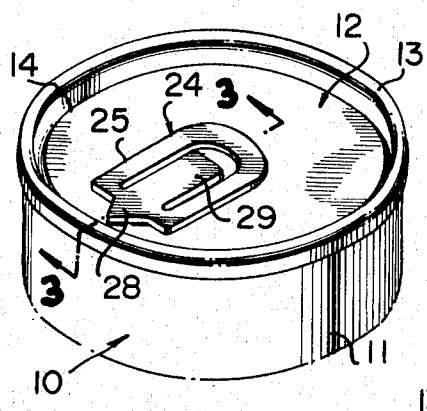


FIG. 2

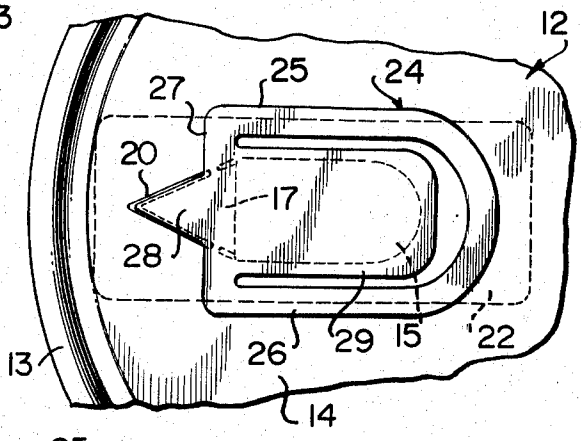


FIG. 3

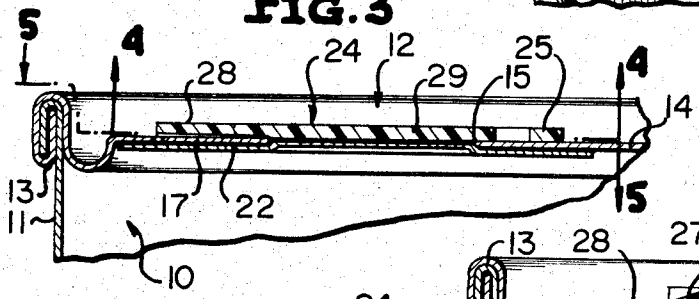


FIG. 7

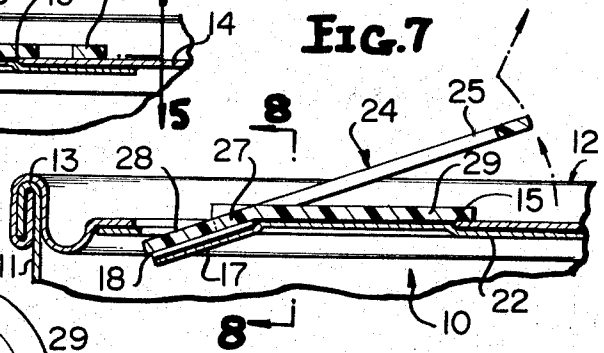


FIG. 4

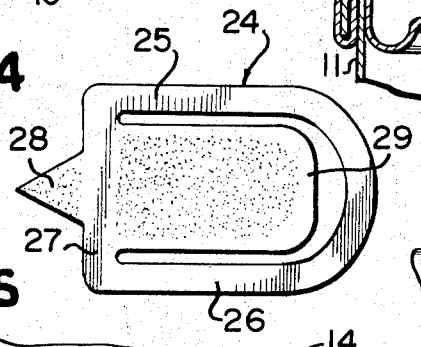


FIG. 8

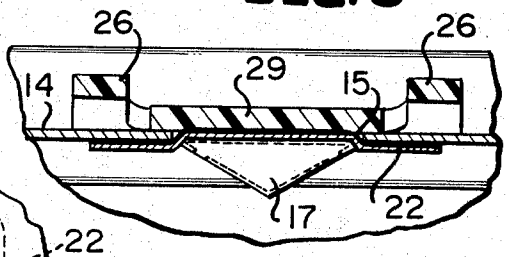


FIG. 5

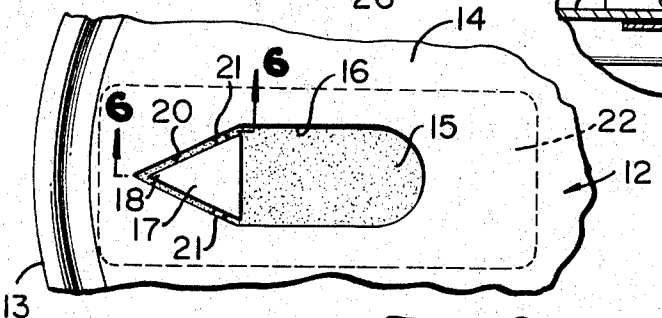
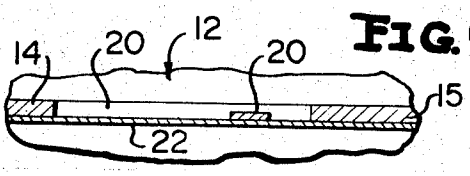


FIG. 6



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PLASTIC TAB AND INNER TAPE FOR EASY OPENING CAN END

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10 Claims. (Cl. 220—54)

This invention relates in general to new and useful improvements in easy opening containers, and more particularly to an easy opening panel construction having a preformed opening therein which is sealed by readily rupturable sealing means.

This invention particularly relates to an easy opening panel construction wherein the panel has a dispensing opening which is sealed by a sealing member, preferably in the form of plastic tape, which sealing member is bonded to the inner surface of the panel and which is rupturable in accordance with the outline of the dispensing opening to facilitate the dispensing of a product from an associated container.

A principal feature of this invention is to provide means for facilitating the initial rupture of a sealing member of the foregoing type and to effect the removal of that portion of the sealing member which is aligned with the dispensing opening in the panel. In accordance with this invention, the panel is provided with a readily removable portion along an edge of the dispensing opening which is in the form of a cutter and which cutter has connected thereto a pull tab of a construction to effect the pivoting of the cutter inwardly through the sealing member so as to initially rupture the sealing member.

Another feature of this invention resides in the fact that the pull tab is bonded to the cutter and the cutter is in turn bonded to the sealing member whereby after the initial rupture of the sealing member occurs, a pull on the pull tab will result in the exerting of a like pull on that portion of the sealing member aligned with the dispensing opening through the intermediate cutter whereby the pull tab, the cutter and that portion of the sealing member aligned with the dispensing opening may be removed as a unit.

A further feature of the invention resides in the fact that the pull tab has a base to which the pull tab is hingedly connected, and the base of the pull tab overlies the dispensing opening so as to prevent any foreign matter from entering thereinto, and the base is bonded to the sealing member through the dispensing opening to facilitate the tearing out of that portion of the sealing member aligned with the dispensing opening.

With the above and other objects in view that will hereinafter appear, the nature of the invention will be more clearly understood by reference to the following detailed description, the appended claims and the several views illustrated in the accompanying drawing:

In the drawing:

FIGURE 1 is a fragmentary top perspective view of an easy opening container incorporating the easy opening panel construction of this invention.

FIGURE 2 is an enlarged fragmentary plan view of the upper end of the container of FIGURE 1.

FIGURE 3 is an enlarged fragmentary vertical sectional view taken along the line 3—3 of FIGURE 1.

FIGURE 4 is an enlarged sectional view taken along the line 4—4 of FIGURE 3 and shows the specific outline of the pull tab and the associated base.

FIGURE 5 is an enlarged fragmentary horizontal sectional view taken along the line 5—5 of FIGURE 3.

FIGURE 6 is an enlarged fragmentary vertical sectional view taken along the line 6—6 of FIGURE 5.

FIGURE 7 is an enlarged fragmentary vertical sectional view similar to FIGURE 3 and shows the pull tab moved to a slightly elevated position and the cutter having pivoted with the pull tab and having effected the initial rupture of the sealing member.

FIGURE 8 is an enlarged fragmentary transverse vertical sectional view taken along the line 8—8 of FIGURE 7.

Referring now to the drawing in detail, it will be seen that there is illustrated in FIGURE 1 an easy opening container formed in accordance with this invention, the container being generally referred to by the number 10. The illustrated container is in the form of a can and includes a conventional can body 11 to which there is secured a can end, which is generally referred to by the numeral 12, by means of a conventional double seam 13. The can end 12 is provided with a panel 14 which is the customary end panel.

In order to facilitate the dispensing of the product packaged within the container 10, the end panel 14, as is best shown in FIGURE 5, is provided with a dispensing opening 15 which is defined by a cut edge 16. At one end of the dispensing opening 15 there is a cutter 17 which is triangular in outline and which has a pointed end 18 facing away from the dispensing opening 15. The cutter 17 is primarily defined by cuts 20 and remains integrally connected to the end panel 14 only by means of a pair of very short connecting straps 21. In addition, the metal of the end panel 14 at the connecting straps 21 is reduced in thickness by scoring so as to readily facilitate the breaking away of the cutter 17 from the end panel 14.

The dispensing opening 15 and the cuts 20 are sealed by a sealing member 22. The sealing member 22 is preferably in the form of a generally rectangular piece of plastic tape which is bonded to the underside of the end panel 14 in any desired manner. For example, a special adhesive may be provided. On the other hand, the plastic tape sealing member may be directly heat bonded to the enamel coating which is conventionally found on the inner surface of can ends.

It is known that in the form of opening in sheet metal, a sharp edge occurs around the boundary of each opening. After the initial rupture of the sealing member 12 has taken place, an outward pull on that portion of the sealing member 22 aligned with the dispensing opening 15 will result in the shearing of the sealing member along the edge 16 of the end panel 14.

The purpose of the cutter 17 is to facilitate the initial rupturing of the sealing member 22. In order that the cutter 17 may be readily utilized for this purpose, there is provided a pull tab unit which is generally referred to by the numeral 24. The pull tab unit 24 includes a pull tab 25 which includes a generally U-shaped portion 26 having a cross bar 27 extending across the ends thereof. The cross bar 27 is provided with a projecting portion 28 which generally conforms to the outline of the cutter 17.

The pull tab unit 24 also includes a base 29. The base 29 is integrally connected to the cross bar 27 and due to the resiliency of the plastic material from which the pull tab unit 24 is formed, has a hinge connection with the cross bar 24. The base 29 is of a size and outline to fully cover the dispensing opening 15 and normally rests on the outer surface of the end panel 14 surrounding the dispensing opening 16. The projection 28 is bonded to the cutter 17. In addition, the base 29 is bonded to the sealing member or tape 22 through the dispensing opening 15. These seals may be of any desired conventional type.

From the foregoing, it will be readily apparent that the sealing member of tape 52 performs the necessary function of sealing the dispensing opening 15 and the cuts 20. It will also be apparent that the base 29 performs the function of covering the dispensing opening 22

externally so as to prevent the entrance of foreign matter into the dispensing opening. Thus from a packaging standpoint, the easy opening panel construction is an acceptable one.

When it is desired to open the container **10**, the pull tab **25** is lifted with the result that the cross bar **27** hinges relative to the base **29** in the manner shown in FIGURE 7 and the projecting portion **28** presses down on the cutter **17** and breaks the connecting straps **21** as the cutter **17** pivots downwardly to the position shown in FIGURE 7. As the cutter **17** is forced downwardly, the pointed end **18** thereof applies a concentrated cutting pressure on the underlying portion of the sealing member or tape **22** with the result that the initial rupture of the sealing tape **22** occurs. It will be readily apparent that as the pull tab **27** is continued to be moved upwardly and the cutter continues to pivot downwardly, the sealing tape **22** will be severed in a triangular pattern in accordance with the outline of the cutter **17**. Then an upwardly and rearwardly directed pull is exerted on the pull tab **25** with the result that the portion of the sealing tape **22** aligned with the dispensing opening **15** is pulled through the dispensing opening due to the connection of the base **29** to the sealing tape **22** and the connection of the projecting portion **28** to the sealing tape **22** through the cutter **17**. As the portion of the sealing tape **22** is outwardly tensioned in alignment with the dispensing opening **22**, the rupture effected by the cutter **17** will continue along the opposite sides of the dispensing opening **15** due to the shearing engagement of the tensioned portion of the sealing tape **22** with the cut edge **16** defining the dispensing opening **15**. At the termination of the opening procedure, that portion of the sealing tape **22** aligned with both the dispensing opening **15** and the cutter **17** will be torn out and will remain connected to both the pull tab unit **24** and the cutter **17**. It is also to be noted that the removed portion of the container, while it does include a relatively sharp metal cutter, the cutter **17**, will not present a problem as to disposal inasmuch as the cutter **17** will be masked by both the pull tab unit **24** and the torn out portion of the sealing tape **22**.

Although the cutter **17** has been illustrated as positioned adjacent the periphery of the end panel **14**, it is to be understood that if desired, the easy opening construction could be rotated 180 degrees so that the cutter **17** may be positioned adjacent the center of the end panel **14**. This, of course, is merely a question of orientation which may be of any desired arrangement.

Although only a preferred embodiment of the invention has been specifically illustrated and described herein, it is to be understood that various modifications may be made in the easy opening construction without departing from the spirit and scope of the invention, as defined by the appended claims.

I claim:

1. An easy opening panel construction for a container comprising a dispensing opening in said panel, a rupturable sealing member secured to said panel surrounding said dispensing opening and sealing said panel, and

means for facilitating the rupturing of said sealing member including a cutter formed from the material of said panel and a pull tab connected to said cutter for moving said cutter through said sealing member.

2. The panel construction of claim **1** wherein said cutter is integrally connected to said panel.

3. The panel construction of claim **1** wherein said cutter is integrally connected to said panel by readily rupturable means facilitating the removal of said cutter during the rupturing of said sealing member.

4. The panel construction of claim **1** wherein said cutter is integrally connected to said panel by readily rupturable means facilitating the removal of said cutter during the rupturing of said sealing member, and said cutter is bonded to said sealing member.

5. The panel construction of claim **1** wherein said pull tab is formed of a resilient material and is bonded to said cutter.

6. The panel construction of claim **1** wherein there is a base for said pull tab to which said pull tab is pivotally connected, and said base covers said dispensing opening.

7. The panel construction of claim **1** wherein there is a base for said pull tab to which said pull tab is pivotally connected, and said base covers said dispensing opening, and is sealed to said sealing member through said dispensing opening.

8. The panel construction of claim **1** wherein there is a base for said pull tab to which said pull tab is pivotally connected, said base covers said dispensing opening and is sealed to said sealing member through said dispensing opening, and said cutter is bonded to said sealing member and said pull tab.

9. The panel construction of claim **1** wherein said cutter is integrally connected to said panel by readily rupturable means facilitating the removal of said cutter during the rupturing of said sealing member, and wherein there is a base for said pull tab to which said pull tab is pivotally connected, and said base covers said dispensing opening.

10. The panel construction of claim **1** wherein said cutter is integrally connected to said panel by readily rupturable means facilitating the removal of said cutter during the rupturing of said sealing member, and said cutter is bonded to said sealing member, there is a base for said pull tab to which sad pull tab is pivotally connected, said base covers said dispensing opening and is sealed to said sealing member through said dispensing opening, and said cutter is bonded to said sealing member and said pull tab.

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